

Message

From: Matt Tonkin [matt@sspa.com]
Sent: 4/26/2018 2:56:00 PM
To: TU, LYNDSEY [Tu.Lyndsey@epa.gov]; Grange, Gabrielle Fenix [Gabrielle.Grange@doh.hawaii.gov]; Linder, Steven [Linder.Steven@epa.gov]
CC: g.d.beckett [g.d.beckett@aquiver.com]; Whittier, Robert [Robert.Whittier@doh.hawaii.gov]; Donald Thomas [dthomas@soest.hawaii.edu]
Subject: RE: Concise agenda comments please FW: Red Hill Technical WG Meeting No. 5

Great, thanks

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From: TU, LYNDSEY [mailto:Tu.Lyndsey@epa.gov]
Sent: Thursday, April 26, 2018 9:49 AM
To: Matt Tonkin <matt@sspa.com>; Grange, Gabrielle Fenix <Gabrielle.Grange@doh.hawaii.gov>; Linder, Steven <Linder.Steven@epa.gov>
Cc: g.d.beckett <g.d.beckett@aquiver.com>; Whittier, Robert <Robert.Whittier@doh.hawaii.gov>; Donald Thomas <dthomas@soest.hawaii.edu>
Subject: RE: Concise agenda comments please FW: Red Hill Technical WG Meeting No. 5

Hi Matt,

Yes- thank you. I just saw them. I am going to paste them in below so that this email thread captures the comments so far. Folks can simply add on, or send me their comments separately and I will consolidate.

Thanks again,

Lyndsey Tu
Underground Storage Tanks Program
Land Division, U.S. EPA Pacific Southwest
Tu.Lyndsey@epa.gov | 415-972-3269

From: Matt Tonkin [mailto:matt@sspa.com]
Sent: Wednesday, April 25, 2018 8:15 PM
To: TU, LYNDSEY <Tu.Lyndsey@epa.gov>
Cc: Ronald Chinn <ron.chinn@innovex.net>; Pallarino, Bob <Pallarino.Bob@epa.gov>
Subject: RE: Draft Agenda: Red Hill Technical WG Meeting No. 5

Lyndsey:

Here are my main thoughts on this agenda as presented. I have provided my thoughts in sequence, and then after each main area, I have attempted to provide some starting language for a comment/response you could consider sending to the navy in response to their agenda, to see if we can help them craft it into something more like what we want to see.

1. I was going to propose extending the first item (Overview of Previous Issues) but am concerned that could derail the meeting, given the status of the data deliverables, etc. So in the interests of making Mondays call productive, I would suggest not doing that, and rather tabling any in-depth discussion of pending issues about data, etc., (a) to the end if time remains or (b) just to separate calls/correspondence.

COMMENT TO NAVY COULD BE: There are outstanding issues regarding the navy providing the data, which process seems to be taking longer than anticipated or promised, and at least at this point not resulting in the sorts of deliverables anticipated, but we will table those for the end of this meeting or another time, in the interests of not delaying this meeting.

2. Some of the material looks to me like it will be at least a partial repeat, perhaps expanded, of previous presentations e.g., on the analytical forensics. In the same vein of not wishing to derail the meeting before hearing what they have to say - it would be helpful to get a list of the major items that they have revisited or revised, based on feedback received from the agencies - essentially, a preview to what will be new and different in the presentation Monday. For example, "realistic" LNAPL calculation (as Curt discussed in March), and the idea that if there are two fairly plausible alternatives for the 2014 release (it did, and it did not, reach the water table) then any Monte-Carlo would be anticipated to have a central tendency that is about the size of the 2014 release or potentially smaller.

COMMENT TO THE NAVY COULD BE: it would be helpful to have a menu or bullet list of the key areas in which the navy and its consultants have revisited or revised their methods based upon prior and particularly recent input from the regulatory agencies, and where those areas and revisions will be highlighted in the presentation. Particular areas of emphasis for the Regulatory Agencies are (a) the design and form of the LNAPL model and (b) the role and results of the Monte-Carlo application of that model.

3. The question will come up from our side, regarding how their 3D geologic CSM is directly influencing or informing these release scenarios - either explicitly, or simply just to obtain univariate/site-averaged properties. The question is - do we ask this early; wait until part way through; or could they roll this in under (2) and indicate whether, in a change or progression from earlier work, they are now attempting to be more realistic in their calculations. I would prefer to get it out of the way under (2) if indeed they have done something along these lines, so we don't have to raise the obvious question.

COMMENT TO THE NAVY COULD BE: it would be helpful if the Navy and its consultants could highlight in this presentation what steps have been taken to move from the initial box-model LNAPL release analysis toward something more physically realistic that it would be possible to envision playing a role in defining source terms for the ultimate groundwater fate-and-transport analysis.

4. I am still struggling with how they will prove-out (validate, corroborate) their LNAPL release model, given that I think we all agreed in March that there are two almost equally plausible scenarios, based on the data: that some LNAPL did reach the water table (not necessarily the majority, etc., but some), or that none reached the water table but it sure got close enough that with whatever other drivers there are (infiltration?) solutes from the LNAPL did reach the water table. Again, we can wait and ask the question, or we could ask them in advance to be sure they are including discussion of steps that they are taking to corroborate or prove-out their LNAPL release model/scenarios. This will of course have to be primarily based on the 2014 release. I envision something not completely dissimilar to what Chuck tried to present (a Monte-Carlo) but that has the added element of history-matching.

COMMENT TO THE NAVY COULD BE: The regulatory agencies will be looking to hear from the Navy and its consultants what steps have been taken and efforts made to either discriminate between the various release scenarios, or to corroborate their interpretations of the fate of LNAPL releases, using existing analytical data. We would anticipate this would focus on the 2014 release but may include earlier data given that evidence of earlier impacts to groundwater

exists. This is particularly important to the regulatory agencies given that the LNAPL conceptual and transport models are anticipated to ultimately play a role in defining the source term for the groundwater model.

5. I haven't heard or read much on the uncertainty regarding the volume of release that is assumed for the 2014 event, and I am not clear how this will factor into either their use of that release as some sort of calibration-constraint or corroboration data set/event. If this hasn't previously been discussed, then it should be, pretty soon, and Monday is probably a good time for it.

COMMENT TO THE NAVY COULD BE: if the 2014 release event is to be used as an example either for calibration, weighting of potential release scenarios, or in any other manner - particularly in the context of a Monte-Carlo type of framework, which seems to be the most appropriate avenue at this time - then the uncertainty in the volume released in 2014 should also be incorporated in that analysis.

Lastly, and not really for general distribution: I understand that this work at this time is primarily to support the TUA, but I think that we are heading toward something of a "non-answer", if we determine that it is equally plausible that a moderately-sized release did or did not impact the water table. At some point we may want to discuss what this "non-answer" means in the context of the AOC.

A couple other minor points that might be revealed, but are puzzling to me:

1. A high-end conservative release scenario? I am not sure what such a thing does for us.
2. I agree that natural attenuation should be discussed in more detail pretty soon because, even if there is potential for LNAPL impact at/below the water table (see above), a sufficiently high attenuation rate would render releases up to some rate/volume/mass to be not of concern. It is the next piece in the puzzle so it is good to see this potentially on the agenda for a next meeting. However, I am not sure how potential future conditions (which is listed under 1015-1200 for this meeting) can be discussed without considering attenuation. So I am puzzled by this.

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From: Matt Tonkin [<mailto:matt@sspa.com>]
Sent: Thursday, April 26, 2018 7:44 AM
To: TU, LYNDSEY <Tu.Lyndsey@epa.gov>; Grange, Gabrielle Fenix <Gabrielle.Grange@doh.hawaii.gov>; Linder, Steven <Linder.Steven@epa.gov>
Cc: g.d.beckett <g.d.beckett@aquiver.com>; Whittier, Robert <Robert.Whittier@doh.hawaii.gov>; Donald Thomas <dthomas@soest.hawaii.edu>
Subject: RE: Concise agenda comments please FW: Red Hill Technical WG Meeting No. 5

Lyndsey - You should have received mine late last night. Let me know if they didn't come through.

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From: TU, LYNDSEY [<mailto:Tu.Lyndsey@epa.gov>]

Sent: Thursday, April 26, 2018 9:37 AM

To: Grange, Gabrielle Fenix <Gabrielle.Grange@doh.hawaii.gov>; Linder, Steven <Linder.Steven@epa.gov>

Cc: g.d.beckett <g.d.beckett@aquiver.com>; Whittier, Robert <Robert.Whittier@doh.hawaii.gov>; Donald Thomas <dthomas@soest.hawaii.edu>; Matt Tonkin <matt@sspa.com>

Subject: RE: Concise agenda comments please FW: Red Hill Technical WG Meeting No. 5

Hi Fenix,

I am planning to make time this afternoon to work on this, if folks can get me their comments today I can pull them into a consolidated response.

Thanks,

Lyndsey Tu
Underground Storage Tanks Program
Land Division, U.S. EPA Pacific Southwest
Tu.Lyndsey@epa.gov | 415-972-3269

From: Grange, Gabrielle Fenix [<mailto:Gabrielle.Grange@doh.hawaii.gov>]

Sent: Wednesday, April 25, 2018 8:54 PM

To: TU, LYNDSEY <Tu.Lyndsey@epa.gov>; Linder, Steven <Linder.Steven@epa.gov>

Cc: g.d.beckett <g.d.beckett@aquiver.com>; Whittier, Robert <Robert.Whittier@doh.hawaii.gov>; Donald Thomas <dthomas@soest.hawaii.edu>; Matt Tonkin <matt@sspa.com>

Subject: Concise agenda comments please FW: Red Hill Technical WG Meeting No. 5

Importance: High

Lyndsey,

Hoping you can assist on follow up with this, but recognize EPA staff is going to be tied up with the technical meeting tomorrow. I see the need to specifically reiterate our areas of concern, as there is little sign so far that the Navy is intending to change course on these key issues. Our SMEs know best what they need and expect, so if it's possible to get some direct feedback from them tomorrow that can be forwarded on, that would be ideal. If you unavailable, the message I sent should give their technical team a sense of our concerns and I can circle back around later in the day tomorrow or first thing Friday.

I will be listening in on the SF meeting in early am, then heading to the Legislature from 9 am – noon, and preparing for an upcoming lawsuit in the afternoon. I will check in periodically and will have my phone with me.

Thanks,

Fenix

From: Grange, Gabrielle Fenix

Sent: Wednesday, April 25, 2018 5:40 PM

To: 'Saguibo, Tracy-Joy I CIV NAVFAC HI, OPHE3' <tracyjoy.saguibo@navy.mil>

Cc: Manfredi, Mark S CIV CNRH, N4A <mark.manfredi@navy.mil>; Fukumoto, Janice L CIV NAVFAC HI, EV3 <janice.fukumoto@navy.mil>; Waki, Cory K CIV NAVFAC HI, EV1 <cory.waki@navy.mil>; Ichinotsubo, Lene K <lene.ichinotsubo@doh.hawaii.gov>; Shalev, Omer <Shalev.Omer@epa.gov>; Pallarino, Bob <Pallarino.Bob@epa.gov>; Linder, Steven <Linder.Steven@epa.gov>; g.d.beckett <g.d.beckett@aquiver.com>; Matt Tonkin <matt@sspa.com>; Ronald Chinn <ron.chinn@innovex.net>; Donald Thomas <dthomas@soest.hawaii.edu>; Kwan, Roxanne S <roxanne.kwan@doh.hawaii.gov>; Whittier, Robert <Robert.Whittier@doh.hawaii.gov>; Johnson, Jeff <JEFF.JOHNSON@aecom.com>; Henderson, Thomas <Thomas.Henderson2@aecom.com>; Curtis C. Stanley <ccstanley@gsi-net.com>

Subject: FW: Red Hill Technical WG Meeting No. 5

Aloha Tracy,

Thanks for sending along the agenda. As mentioned below, we continue to have concerns about how to most effectively use our time during these important technical discussions. I tried to reach both you and Janice by phone earlier this afternoon, but wasn't able to catch you.

I am happy to host the meeting at our Uluakupu office, and have reserved our large Red Conference room for the occasion. We have two large monitors set up in the room that can be easily connected to a laptop with an HDMI cord.

As mentioned below, we want to confer on the agenda and best use of our time Monday to facilitate substantive technical discussions on the significant areas of disagreement within the agenda topics, including the current LNAPL model, proposed methods of evaluating release scenarios and interpretation of the forensic chemistry data.

I have multiple commitments tomorrow morning, including a hearing and press conference on a different environmental issue and so will ask our SMEs to provide some more specific details to Lyndsey about desired focus areas related to the agenda topics, and we will work to get that info to you as soon as possible tomorrow.

If you have slide decks or more detailed outlines already prepared, allowing us to review those might be another effective way of focusing our discussion.

I appreciate your efforts working with us in these AOC technical forums to gain regulatory acceptance of these key components of the CSM and EV Technical Memorandum.

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From: Grange, Gabrielle Fenix

Sent: Tuesday, April 24, 2018 1:48 PM

To: 'TU, LYNDSEY' <[Tu.Lyndsey@epa.gov](mailto:TU.Lyndsey@epa.gov)>; Saguibo, Tracy-Joy I CIV NAVFAC HI, OPHE3 <tracyjoy.saguibo@navy.mil>

Cc: Ichinotsubo, Lene K <lene.ichinotsubo@doh.hawaii.gov>; Shalev, Omer <Shalev.Omer@epa.gov>; Pallarino, Bob <Pallarino.Bob@epa.gov>; Linder, Steven <Linder.Steven@epa.gov>; g.d.beckett <g.d.beckett@aquiver.com>; Matt Tonkin <matt@sspa.com>; Ronald Chinn <ron.chinn@innovex.net>; Donald Thomas <dthomas@soest.hawaii.edu>; Waki, Cory K CIV NAVFAC HI, EV1 <cory.waki@navy.mil>; Kwan, Roxanne S <roxanne.kwan@doh.hawaii.gov>; Whittier, Robert <Robert.Whittier@doh.hawaii.gov>; Manfredi, Mark S CIV CNRH, N4A <mark.manfredi@navy.mil>

Subject: RE: Red Hill Technical WG Meeting No. 5

Thanks, Lyndsey.

Tracy and Cory,

As discussed yesterday, please send draft agenda asap so that we can confer on not only the agenda itself but on the use of time during the meeting. For example for Ileana's water chemistry presentation, we don't need to see slides that has previously been presented (or shared via slide decks), but do want to have an active technical discussion about interpretation. Appreciate the wq data we just received, but are still missing the original lab reports that will be important for our team to independently interpret the data and better understand some of the concerns we've heard expressed about those data.

Especially given the newly accelerated schedule, it will be helpful to all to ensure we are making the best use of our technical time next week to discuss priority outstanding concerns affecting ongoing development of the TUA tech memo.

Thanks,

Fenix

From: TU, LYNDSEY [<mailto:TU.Lyndsey@epa.gov>]

Sent: Tuesday, April 24, 2018 1:29 PM

To: Saguibo, Tracy-Joy I CIV NAVFAC HI, OPHE3 <tracyjoy.saguibo@navy.mil>

Cc: Ichinotsubo, Lene K <lene.ichinotsubo@doh.hawaii.gov>; Grange, Gabrielle Fenix <Gabrielle.Grange@doh.hawaii.gov>; Shalev, Omer <Shalev.Omer@epa.gov>; Pallarino, Bob <Pallarino.Bob@epa.gov>; Linder, Steven <Linder.Steven@epa.gov>; g.d.beckett <g.d.beckett@aquiver.com>; Matt Tonkin <matt@sspa.com>; Ronald Chinn <ron.chinn@innovex.net>; Whittier, Robert <Robert.Whittier@doh.hawaii.gov>; Donald Thomas <dthomas@soest.hawaii.edu>; Waki, Cory K CIV NAVFAC HI, EV1 <cory.waki@navy.mil>; Kwan, Roxanne S <roxanne.kwan@doh.hawaii.gov>; Manfredi, Mark S CIV CNRH, N4A <mark.manfredi@navy.mil>

Subject: RE: Red Hill Technical WG Meeting No. 5

Hi Tracy,

In advance of receiving materials for the April 30th technical call, I wanted to re-send the email below as a reminder of some of the topics we would like to see on the agenda. Additionally, as was discussed on the project coordinators call, we are also looking to see a list of the types of data that will be sent in an external hard drive or via AMRDEC at the end of this week. Please give me a call if you would like to discuss, otherwise we look forward to seeing meeting materials soon.

Thanks,

Lyndsey Tu
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From: TU, LYNDSEY

Sent: Wednesday, April 04, 2018 4:11 PM

To: Saguibo, Tracy-Joy I CIV NAVFAC HI, OPHE3 <tracyjoy.saguibo@navy.mil>

Cc: Ichinotsubo, Lene K <lene.ichinotsubo@doh.hawaii.gov>; 'Grange, Gabrielle Fenix'

<Gabrielle.Grange@doh.hawaii.gov>; Shalev, Omer <Shalev.Omer@epa.gov>; Pallarino, Bob <Pallarino.Bob@epa.gov>;

Linder, Steven <Linder.Steven@epa.gov>; 'g.d.beckett' <g.d.beckett@aquiver.com>; 'Matt Tonkin' <matt@sspa.com>;

Ronald Chinn <ron.chinn@innovex.net>; 'Whittier, Robert' <robert.whittier@doh.hawaii.gov>; Donald Thomas

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roxanne.kwan@doh.hawaii.gov; Manfredi, Mark S CIV CNRH, N4A <mark.manfredi@navy.mil>

Subject: Red Hill Technical WG Meeting No. 5

Hi Tracy,

Thank you for the call earlier this week, I anticipate that we will be able to achieve our intended goals with one meeting on April 26th or May 4th. Per our discussion, the Regulatory Agencies require additional information to support an understanding of the basis of information used in the geologic model in Navy's CSM prior to the release of the technical memo. After an initial review of the data package provided by the Navy, geologic information as it relates to the models and cross sections previously presented, was not provided. The specific information used in the base geologic model (i.e. dip angles, apertures, lava flow directions, etc.) should be made available to the Regulatory Agencies by April 18th. We request this data be made available to us in easily accessible electronic form and plan to share it with external subject matter experts upon being made available us. Our experts feel that this information is vital to adequately and objectively judge the Navy's models. We are available for discussion should you feel that April 18th is too soon, but we feel strongly that this information is a priority.

In addition, I discussed providing some thoughts regarding the EV Tech Memo as it relates to the TUA decision. Overall, the interim environmental information is intended to support a tank upgrade decision, and we believe the environmental information to date should be used to provide answers to questions such as the ones below, on a local and regional scale under normal conditions.

- What happens to small (below detection limit) Chronic releases, and where do they go in the environment?
- What happened to the Tank 5 release?
- If another release of a similar magnitude was to occur from a different tank, what type of environmental response could the Navy have given the information available and monitoring well network?
- What about a release of hundreds of thousands of gallons?

- Can the Navy predict concentrations at Navy wells and at Red Hill shaft in a release scenario under normal pumping conditions?

I understand that the Navy is working to include additional release scenarios in the tech memo, we look forward to discussing those scenarios as well as the questions we've raised in a future call.

In preparation for our upcoming meetings regarding components of the Navy's CSM, we wanted to make clear our priorities for discussion.

Using the 'modules' laid out by the CSM table of contents shared at a previous Technical Working Group meeting, our priorities for discussion, and follow up questions are:

Module C- LNAPL Model

- Provide a detailed description of the changes to their LNAPL conceptual model given recent discussions
- Discussion of the release scenarios
- Continued discussion about groundwater chemistry and interpretations

Module F- Dissolved Phase Transport

- Priority discussion topic, as it applies to the questions above.

Module D- Vadose Zone /Geologic Model

- What progress if any has been made regarding previous suggestion to examine changes in features across barrel logs?

There may be additional topics we would like to cover in more detail once we have seen an agenda for the meeting. Please feel free to reach out if there is any need for further clarification. Otherwise we look forward to having the opportunity to comment on an agenda as soon as one is available.

Thanks,

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